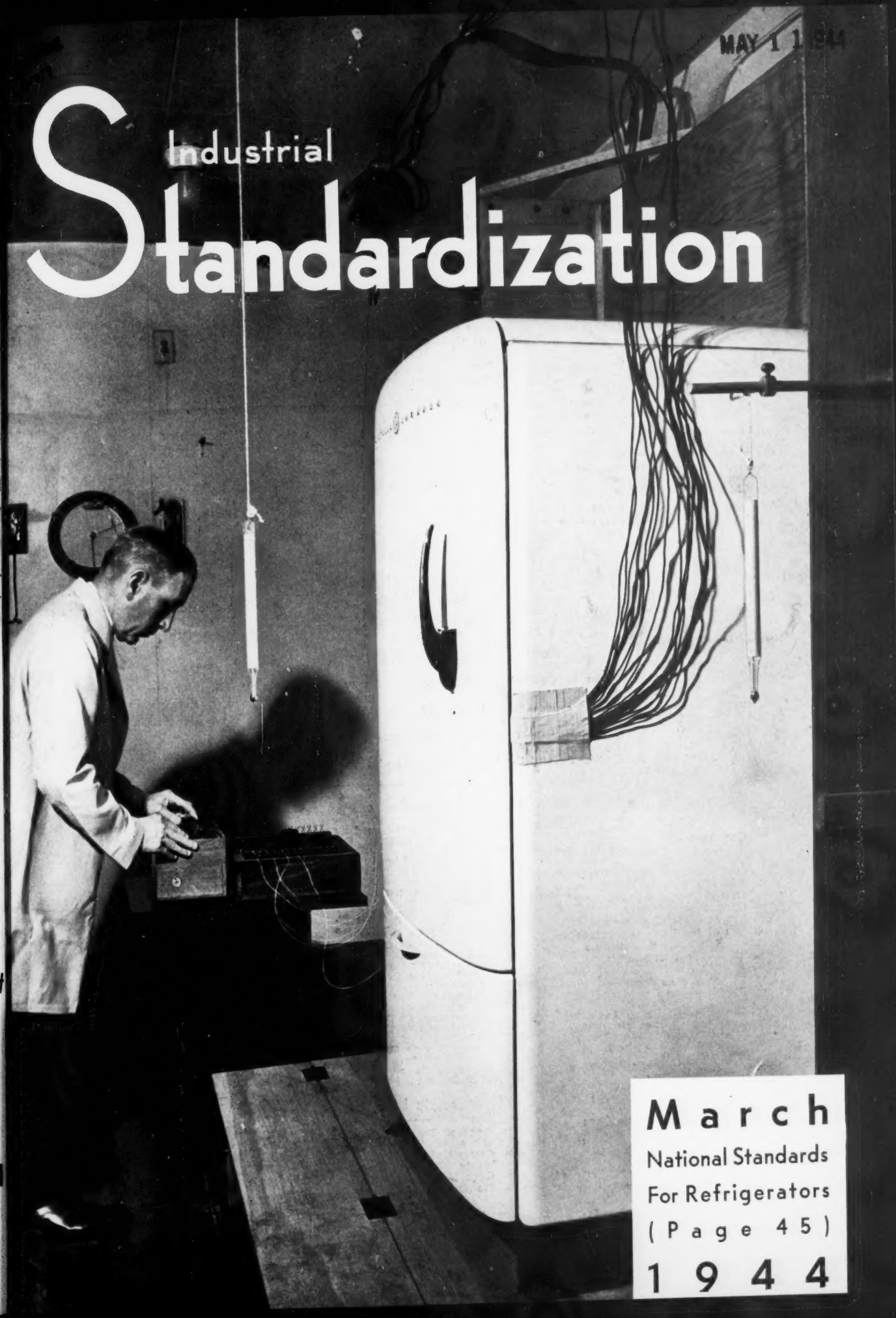
Industrial Standardization



March

National Standards For Refrigerators

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1944

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Industrial Standardization

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RUTH E. MASON, Editor

Our Front Cover: Refrigerator set up according to the American Standard Test Procedures for Household Electric Refrigerators to determine operating efficiency. *Photograph taken at the Good Housekeeping Institute by Charles Phelps Cushing.*

This Issue

The Pictures—Frontispiece, 37, 38—National Bureau of Standards; 45—Charles Phelps Cushing; 51—Press Association.

ASA

Reg. in U.S. Pat. Off.

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

Subscription price $4.00 per year (foreign $5.00); Special to schools and libraries $2.00 (foreign $3.00); single copies 35 cents

March, 1944 Vol. 15, No. 3

Re-entered as Second Class Matter July 31, 1943, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

Building bricks, carefully identified as to type of material, are here tested for resistance to weather by the National Bureau of Standards.

Building Code Requirements for Masonry

by J. W. McBurney[1]

Secretary, ASA Sectional Committee A41

THROUGH the recent approval by the ASA of the American Standard Building Code Requirements for Masonry (A41.1-1944), another American Standard has become available for use by those writing or revising building codes.

Developed by a committee of which the National Bureau of Standards is sponsor, the new standard follows a middle-of-the-road course in its recommendations. Building code requirements are commonly understood to represent the minimum consistent with safety, and undoubtedly most building codes follow this principle. Unfortunately, or perhaps fortunately in some cases, the word "minimum" is flexible in its meaning and what may be regarded as minimum by one code-writing body may in the opinion of other code-writing bodies be too liberal or too conservative. The code writer must keep in mind also that what may be minimum for the competent designer and builder would be entirely inadequate to control the incompetent or unscrupulous.

ASA committee A41 attempted, therefore, to find a middle ground. It believes that its recommendations represent minimum requirements that are consistent with safety predicated upon proper design and generally acceptable workmanship, but which also permit reasonable economy and some degree of flexibility in design. Plain unit masonry has not yet attained quite the same status, as an "engineered" material, that some other forms of construction enjoy, but very considerable progress is being made in this direction, and the committee is hopeful that further study will result in requirements that will permit greater latitude in design based upon accepted engineering principles.

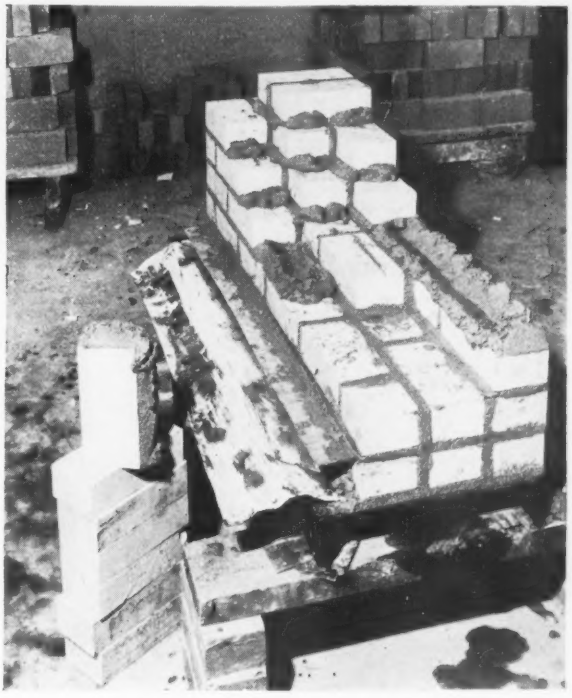
Standard Covers Materials Commonly Used

The standard covers in detail the materials commonly used in masonry. It relates the quality of materials to nationally recognized specifications wherever possible in order to give to the user of the standard the benefit of the great amount of technical work done by committees of national organizations in this field.

A section is provided to give the building official authority to accept new materials and new methods of construction in the masonry field upon a proper showing as to their suitability for use in building construction. The intent of this section is to meet one of the chief criticisms of building codes, namely, that they retard and even discourage the introduction of new or improved materials not specifically covered by code requirements. It is expected that new developments in construction practice will be made following the war, and the committee has endeavored to make the requirements flexible to permit the public to benefit from research in this field.

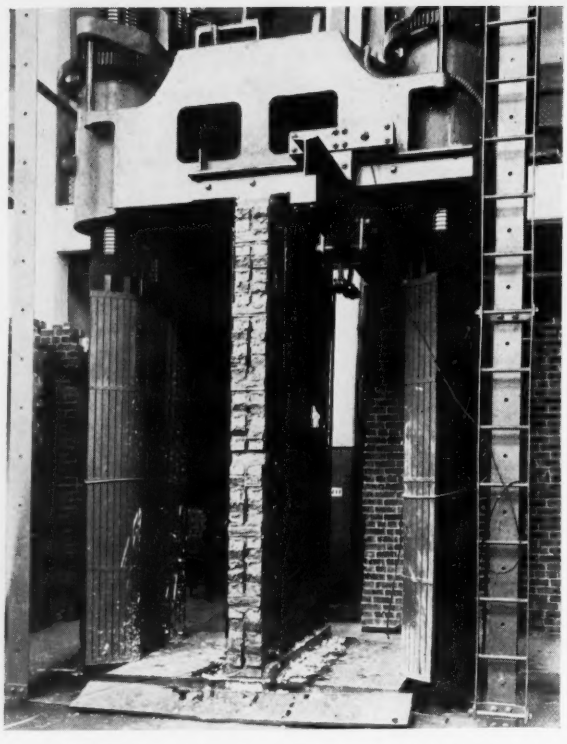
Considerable attention was given by the committee to requirements for mortar. The usual practice in codes, heretofore, has been to specify two or more types of mortar in terms of various proportions of cement to lime in the composition of cement-lime-sand mortars. These types are required for given locations in structures, and allowable stresses are fixed for masonry built from given combinations of mortars and units.

This practice does not take account of differences in mortar materials which may materially affect both strength and workability. The committee accordingly modified this practice by specifying a four-way classification for mortars based upon compressive strength



Good workmanship such as shown on this sample of brick wall will result in high resistance to moisture penetration.

[1] National Bureau of Standards, Washington, D. C.



Brick wall ready for test in a 10,000,000-lb hydraulic compression machine.

and by adding a minimum requirement for water retentivity which is regarded as the best measure of workability generally accepted at present.

Subject to the limitation that the ratio of cementitious material to aggregate should be between the limits of 1:2 and 1:3 by volume, these water retentivity and strength requirements constitute a specification for mortars in terms of properties. The advantages of a property specification compared with a composition specification are: (1) mortars can be designed to meet a particular strength requirement, (2) materials such as masonry cement can be selected and used with precision, and (3) advantage can be taken of superior properties of particular materials.

The committee was aware, however, that many users of the code would not be prepared to test mortars, and therefore provided an alternate grading of mortar, based upon proportioning of materials.

The provisions governing the height and thickness of walls and the requirements for lateral support are believed to be liberal, and in line with sound engineering practice.

Permits Variety in Combining Units

The new standard allows much wider latitude than many codes in the arrangement of units in masonry (bonding), thus permitting the use of a wide variety of combinations of units of different sizes and shapes as well as the use of many different bonds in solid and hollow walls of brick.

Some features of the standard are covered in more detail than in other codes that have come to the attention of the committee. Requirements applying to cavity walls, for example, have been made more complete than in many codes in order to provide for the possibility that this type of construction may gain in importance after the war. As another example, many codes contain a general requirement that brick shall be wetted before laying, no distinction being made between brick whose performance might be improved by wetting and those whose performance might be impaired. The present standard sets up a simple and practical method of test to cover this point.

Provides for Use of Reinforcement

Although the standard does not cover reinforced masonry as such, it provides for the use of reinforcement in foundation walls and parapet walls as an alternate method of design, thereby permitting some economy through the use of thinner walls. The practical problem of providing space for warm-air heating ducts in the walls of small dwellings, which are usually of 8-inch thickness, is recognized in the new standard by permitting chases in 8-inch walls in certain locations and under specified conditions.

The new standard is the first to be developed under the present project on Building Code Requirements and Good Practice Recommendations for Masonry (A41). Authorized by the ASA in 1928 at the request of the former Common Brick Manufacturers Association of America as a project on Recommended Practice for Brick Masonry, the objective of the then autonomous sectional committee was to prepare a manual of good practice for brick masonry. Although considerable work was done in this direction, the committee did not complete its assignment. The project was reactivated in 1937 under its present title, and the committee was reorganized under the sponsorship of the National Bureau of Standards.

As a basis for its work the committee used the report of the former Building Code Committee of the Department of Commerce, entitled *Recommended Minimum Requirements for Masonry Wall Construction*. This report, first issued in 1925, and modified in some particulars in 1931, had been circulated widely in draft form during its development, for review by engineers, architects, building officials, and others qualified to discuss the subject with authority, and represented the best information obtainable at the time the report was issued. The report found wide acceptance, and its rec-

The new American Standard Building Code Requirements for Masonry (A41.1-1944) is one of a series of standards being prepared to form the nucleus of a basic American building code. It was prepared under the administrative leadership of the National Bureau of Standards, with D. E. Parsons, Chief, Masonry Construction Section, Division of Clay and Silicate Products, National Bureau of Standards, as chairman of the committee in charge. Copies of American Standard A41.1-1944 are available from the American Standards Association at 35 cents each.

A complete list of building standards already approved and published was given on page 5, INDUSTRIAL STANDARDIZATION, January, 1944.

ommendations were written into many building codes. Since the report was first issued, however, there have been new developments in masonry materials and in methods of construction, and changes in standards of quality for materials. Consideration of these factors led to a decision on the part of the ASA committee to re-examine the whole report in the light of present-day practice and following experience with its recommendations.

Four complete drafts of the new American Standard were circulated to the committee and some 450 written comments were submitted during its development. Much credit is due the committee members for their faithful attention to reviews of the various drafts of the standard and for their consideration of suggested changes at a time when war work undoubtedly demanded the major share of their efforts.

Other than the previously mentioned recommendations of the former Building Code Committee, there has heretofore been available no separate standard covering the whole field of plain masonry construction. This is understandable since masonry may be built of combinations of a dozen or more materials, only a few of which are sponsored by any one trade association. Recommendations covering certain of the masonry materials have been issued from time to time by the industries concerned, such as those for concrete masonry units, plain concrete, and brick, for example. The present standard, however, is believed to be the first in this field to be prepared under a procedure in which all the competing interests sat down together with representatives of user and technical groups to pool their knowledge and experience in an effort to arrive at a reasonable and safe set of national building requirements.

While the standard represents a real consensus of the committee, it does not pretend to offer the final word on the subject. It represents merely a level that has been reached in the committee's conclusions. New materials, new techniques, and new methods of construction as well as further experience with the practical application of the requirements will quite possibly dictate the need for future revisions of the standard.

ASTM Issues New Edition of Book of Petroleum Standards

THE sixteenth edition of the compilation of ASTM Standards on Petroleum Products and Lubricants, published recently, includes in their latest form the some 80 specifications, tests, and definitions that have been standardized through the work of ASTM Committee D-2 on Petroleum Products and Lubricants. Many of the standards on petroleum products have been given national and international recognition through approval by the American Standards Association, the American Petroleum Institute, and the British Institute of Petroleum.

New standards in the book include a test for oil content of paraffin wax (D 721), the emergency method of test for color of U. S. Army motor fuel (ES 32), and also two proposed tests published for information and comment. These two proposed standards cover saponification number of petroleum products by electrometric titration and a test for oxidation characteristics of steam turbine oils. The latter is based on extensive research work.

Extensive changes were made during 1943 in many of the petroleum standards, including the knock characteristics of aviation and motor fuels, and the viscosity temperature charts. Five of these revised standards have now been approved by the American Standards Association. These are:

Test for Vapor Pressure of Petroleum Products (Reid Method) (Z11.44-1943)
Viscosity-Temperature Charts for Liquid Petroleum Products (Z11.39-1943)
Test for Carbonizable Substance in White Mineral Oil (Liquid Petroleum) (Z11.49-1943)
Test for Carbonizable Substances in Paraffin Wax (Z11.50-1943)
Test for Dropping Point of Lubricating Grease (Z11.51-1943)

Among the standard test procedures covered in detail in the compilation are petroleum oils, burning quality, carbon residue, color distillation, dropping point (grease), flash point, specific gravity, ignition quality (diesel fuels), insulating oils, rusting characteristics (turbine oil), sulfur, viscosity, etc. Specifications cover fuel oils, gasolines, stoddard solvent, various types of asphalt, and thermometers.

Copies of the *ASTM Standards on Petroleum Products and Lubricants* can be obtained in heavy paper cover from the American Society for Testing Materials, 260 South Broad Street, Philadelphia 2, Pa., at $2.25 per copy. Copies of the individual standards approved by the ASA can be obtained from the American Standards Association at 25 cents per copy.

Bakery Equipment Committee Organizes for Safety Work

An organization meeting of the new ASA committee on Safety Code for Bakery Equipment (Z50) was held in Chicago March 5 in conjunction with the annual meeting of the American Society of Bakery Engineers, sponsors of the project. The meeting was attended by representatives of equipment manufacturers, bakery employers and employees, insurance companies, and safety organizations. It was announced at the meeting that the sponsor had appointed Fred L. Moore, chairman of the Safety Committee of the American Society of Bakery Engineers, as chairman of the new committee and H. G. Lamb, ASA safety engineer, as secretary. It was agreed at the meeting that subcommittees on the following subjects would be appointed to prepare rules for different kinds of bakery machinery: (1) wrapping and slicing machines; (2) mechanical and explosion hazards of bakery ovens; (3) mixers; (4) dough-handling equipment; (5) dough brakes; (6) flour-handling and bread-handling equipment; (7) biscuit and cracker machinery; (8) electrical. This latter committee is a functional committee to give advice on electrical matters to all the other seven committees.

The chairmen of these committees have been appointed and they are now going to work to form their subcommittees and to start writing specifications.

New Foreign Standards Now in ASA Library

THE following new and revised standards, just received by the American Standards Association from other countries, may be borrowed by ASA Members, or ordered through the ASA Library. The standards are published in the language of the country in which they were issued.

Australia

Automatic Sprinkler Installations, Rules for CA.16-1942

Draft Standard

Testing Woven Textile Fabrics CL-1

Great Britain

Dry Gelatine Glue for Aircraft Purposes (Superseding BS4.V.11) BS5.V.11
Cold Twisted Steel Bars for Concrete Reinforcement BS:1943
Galvanised Steel Wire Strand for Signalling Purposes BS163: Part 1:1943
Glossary of Terms Used in Electrical Engineering BS205:Part 8:1943
Load-Bearing Concrete, Brickwork and Masonry (not reinforced) BS1145:1943
Refuse Storage Containers BS1136:1943
Reinforced Brickwork BS1146:1943
Spraying Nozzles for Horticultural Purposes BS1135:1943
Synthetic-Resin Bonded-Paper Sheets for Use as Electrical Insulation at Power Frequencies BS1137:1943
Test Pieces for Production Control of Aluminium Alloy Spot Welds BS1138:1943
Terneplate (Tin-Terne) Quality, Services Specifications for BS/STA23

War Emergency Standards

Bronze Oil Retaining Bearings BS1131:1943
Circular Screwing Dies BS1127:1943

Great Britain War Emergency Standards—(Continued)

Diamond Tipped Turning Tools BS1148:1943
Fibre Building Board for General Building Purposes BS1142:1943
Secondary Zinc Alloy for Die Casting BS1141:1943
Spot Welding for Light Assemblies in Mild Steel BS1140:1943

Draft Standards

Pitch Mastic Flooring, Alternative to Mastic Asphalt for Flooring (Draft revised War Emergency British Standard 1093) CG(B) 5324
Sensitised Recording Materials CG(PHC) 5380
Structural Plywood for Marinecraft, Specifications for CG(TIB) 5265
Structural Timber, Sizes of CG(C) 4602

Mexico

Norma Oficial del Acido Sulfurico K2-1943
Norma Oficial de Gases Licuados de Petroleo L1-1943
Normas Oficiales de los Metales para Monotipo, Linotipo, Estereotipo, y Electrotipo B1-1943; B2-1943; B3-1943; B4-1943

New Zealand

Water-Closet Pans, Emergency Standard Specifications for NZSS E.108

Switzerland

Aluminium Vierge, Aluminium et Alliages D'Aluminium Méthodes d'analyse (Analyse arbitral) VSM 10844 S.1-7 P
Fonte Malleable Caracteristiques et prescriptions VSM 10692 S.1-5 P
Rayons D'Arrondi Pour Arbres Explications Arrondis d'arrêt pour accouplements, polies, etc VSM 15006a B1.1 & 2 F; B1.3 F
Repertoire des Normes VSM Editions Septembre 1943
Soudure Méthode de contrôle Contrôle des soudures sur les constructions, Directives VSM 14055 S.1-5 P

Morning, Noon, and Night

Adapted from an address by Cyril Ainsworth, Assistant Secretary of the American Standards Association, before the Safety Engineering Club of Baltimore, Maryland, February 4, 1944.

NOT only do American Safety Standards touch the daily activities of safety engineers, but coupled with other engineering standards, they also affect the life of each of us as individuals.

On arising in the morning it is still dark, so you throw a switch to turn on the light. The switch and wiring, lighting fixtures, and other parts of the lighting system have been installed in accordance with the National Electrical Code, an American Standard. The wire used in the system conforms to American Standard specifications. The water for your bath and shave comes from pipe fittings and valves which are threaded, constructed, and installed in accordance with the requirements of American Standards. You put on clothes, the fabrics of which have been tested according to American Standards, and you don linen laundered on machinery protected by American Safety Standard requirements. For breakfast your coffee is made on a gas stove labeled to show that its construction and performance conform to the approved requirements for gas stoves, and the food you eat is taken from a refrigerator tested according to the American Standard method.

In going to work you join with others in your car club, and ride in a car inspected in accordance with the American Standard inspection requirements and containing safety glass made to conform with standard specifications. The driver observes, we hope, the traffic signs and signals installed along the streets and highways and constructed in accordance with American Standard specifications. On reaching your place of business, you go to your office by means of an elevator which has been constructed, installed, and inspected in accordance with American Safety Standards. The guarding of the machinery in your plants, the lighting, the sanitation, the direction signs, the fire and exit protection, the exhaust ventilation, and many other items designed for your protection and comfort are all in accordance with the best known practice as set forth in American Standards.

When business is over for the day, you return home with American Standards exerting their influence as they did when you went to work. If the standards which are now under development are completed, you will go to sleep on mattresses constructed, from a health point of view, in accordance with these future American Standards.

Nitrogen Oxide Standard Protects Industrial Workers

by Carey P. McCord, M.D.[1]

Member of ASA Sectional Committee on Allowable Concentrations of Toxic Dusts and Gases

Arc-welding gases, it is believed, contain the less dangerous oxides of nitrogen. This workman is protected by exhaust ventilation, however.

ENDORSED and sponsored by the American Association of Industrial Physicians and Surgeons, a standard for the allowable concentration of Oxides of Nitrogen has been adopted by the American Standards Association. This standard, suggesting the safe upper limits of oxides of nitrogen in the air of work-places, represents approximately four years of inquiry on the part of the American Standards Association's committee on toxic dusts and gases (Z37).

Unlike the greater number of promulgated standards seeking to protect workers against the action of injurious substances, this particular one is concerned not with a single substance but with a group, with some members possessing more active properties than others. Under certain circumstances these oxides may be transformed into substances with higher potentially dangerous properties. A further consideration relative to a standard for nitrous gases is the fact that they frequently coexist with dissimilar gases or vapors which are no less toxic in their own right. While the threshold limits suggested as a standard for a dangerous work material may not be established in relation to the several other harmful materials with which it may be associated, in the case of nitrous oxides other gases may have influenced the fixing of the standard at a level somewhat lower than would have been the case in dealing with a single gas in pure form.

It is the custom of the American Standards Association to present its standards on toxic gases and dusts in uniform fashion and in few words. In the case of many standards and particularly so in the present instance, it becomes desirable to present in a separate publication some of the industrial, chemical, medical, and engineering background from which the standard was evolved. It is the purpose of this introductory publication to assemble this essential background material.

The American Standard

The maximum allowable concentration of oxides of nitrogen (calculated as NO_2) shall be 25 parts per 1,000,000 parts of air by volume, corresponding to 0.047 mg per liter at 25C and 760 mm pressure, for exposures not exceeding a total of 8 hours daily.

Present Standards or Tacit Standards

The desirability of a standard which it is hoped may become uniformly acceptable is reflected in the highly divergent proposals that have appeared in the past few decades. Literally, these variations range from one part per million of nitrous gases (calculated as HNO_3) to 1400 parts per million in another publication (limited to NO_2). The former is an official Russian Soviet standard; the latter is an unofficial German proposal. The most publicized standard is 39 parts per million, widely accepted by common consent following the work of Lehmann and Hasegawa in 1913. While this figure of 39 ppm has come to possess almost "excathedra" values in some quarters, any reading of the original German publication will disclose a meagerness of investigative work that constitutes indeed a flimsy reed upon which to have built thirty years of domination of industrial hygiene's concept of nitrous oxide's toxicity. Notwithstanding the scantiness of work and the questionable analytic procedures, the conclusions reached are manifestly closely akin to the new standard just mentioned. In recent years and without known evidence therefor, several official state and local bureaus of industrial hygiene have set up quasi standards of 5 or 10 ppm. One group of workers, including the present author, investigating nitrous gases as found in welding repeatedly determined that nitrous gases of the general level of 100 ppm were harmless to small animals when the exposure was continued over a period of many weeks. These

[1] The Industrial Health Conserency Laboratories.

A committee made up of experts on medical problems of exposure of workers to toxic dusts and gases, as well as on the industrial and chemical problems involved in controlling the amount of toxic substances in the air, is working on a series of standards to protect industrial workers. This committee, known as the ASA Sectional Committee on Allowable Concentrations of Toxic Dusts and Gases (Z37), has the following membership:

W. P. Yant, Member-at-Large, *Chairman*

Dr. C. D. Selby, Member-at-Large, *Vice-Chairman*

American Association of Industrial Physicians and Surgeons, *Dr. C. P. McCord*
American Industrial Hygiene Association, *Dr. R. A. Kehoe; P. Drinker (alternate); Dr. C. P. McCord (alternate)*
American Institution of Chemical Engineers, *C. R. Stratton*
American Petroleum Institute, *Dr. J. M. Adams; D. V. Stroop (alternate)*
American Public Health Association, Hygiene Section, *J. J. Bloomfield*
Association of Casualty and Surety Executives, *M. A. Snell; W. A. Hough (alternate)*
Conference of State and Provincial Health Authorities of North America, *Dr. S. H. Osborne; Dr. A. S. Gray (alternate)*
Federal Security Agency, Public Health Service, *Dr. P. A. Neal*
International Association of Governmental Labor Officials, *M. Bowditch; M. D. Kossoris (alternate)*
International Association of Accident Boards and Commissions, *Dr. L. Greenburg*
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Standards Now Completed

Thirteen standards have now been completed by the committee as follows:

American Standard Allowable Concentrations of

Benzene (Z37.4-1941)
Carbon Disulfide (Z37.3-1941)
Carbon Monoxide (Z37.1-1941)
Chromic Acid and Chromates (Z37.7-1943)
Hydrogen Sulfide (Z37.2-1941)
Lead and Certain of its Inorganic Compounds (Z37.11-1943)
Mercury (Z37.8-1943)
Nitrous Gases (Z37.13-1944)
Toluene (Z37.12-1943)

American War Standard Allowable Concentrations of

Cadmium (Z37.5-1941)
Manganese (Z37.6-1942)
Metallic Arsenic and Arsenic Trioxide (Z37.9-1943)
Xylene (Z37.10-1943)

Each of these standards is available from the American Standards Association at 20 cents per copy. ASA Members are entitled to 20 percent discount.

investigators proposed a standard of 70 ppm. It is believable but not proved that welding gases may represent a maximum of the less dangerous oxides of nitrogen and a minimum of those more conducive to harm. It becomes obvious that in the midst of so many and such divergent standard proposals not all may be correct, and possibly none. Due consideration of all the facts available led to the American Standard as above stated.

The Oxides of Nitrogen

At least six oxides of nitrogen have been mentioned, starting with the anesthetic nitrous oxide, N_2O. However, it is probable that there are only three distinct oxides; viz, nitrous oxide (N_2O), nitric oxide (NO), nitrogen dioxide (NO_2), and its polymer form (N_2O_4). All other chemical expressions probably only represent physical mixtures of these specific forms. In industrial toxicology nitrous oxide (N_2O) may be disregarded, not because it is without dangerous properties in high concentration, but because apart from its manufacture it rarely exists in industry. This leaves only nitric oxide and the two forms of the dioxide as the practical troublemakers in industry. However, the ultimate chemical forms reached by these oxides are nitric and nitrous acid, nitrates, and nitrites.

In What Industrial Workplaces Do Oxides of Nitrogen Arise?

Negligible quantities of oxides of nitrogen may arise from so simple and innocent-looking an operation as an ozone generator located in a lunch room to mask odors. Such trivial sources are legion. Of greater importance are such operations as welding, particularly arc welding in enclosed spaces, the manufacture of certain classes of dyes, celluloid, some explosives, and the manufacture and application of nitric acid. The slow burning of nitro-explosives is more productive of nitrogen oxides than is true for the gases derived from detonation. These industrial activities fail to exhaust the sources of industrial nitrogen-oxide gases but do serve to indicate the diversity of opportunity for exposure.

Do Industrial Nitrous Gases Damage the Body?

Only through inhalation do these nitrogen gases take their toll of the body's well being. The first and chief action is upon the respiratory tract, but it is possible that systemic damage may be accomplished thereafter through the action of nitrites and kindred bodies. Taken into the lungs through inhalation these gases combine

with water to form nitrous and nitric acids. It is probable that often the formation of such acids has taken place completely in the atmosphere prior to inhalation. The spectacular manifestation of nitrogen-oxide injury is to be found in the massive swelling that takes place in the lungs and along the respiratory tract. The causation of this damage is an insidious process, the manifestation being delayed at times from six to 24 hours after exposure. When death occurs, this pulmonary edema is likely to be the outstanding feature. Before and during this process, it is probable that a variety of smaller but no less characteristic injuries occur. First, these are due to the action of nitrites. Anoxia may contribute to the pathological picture. Among the peculiar features of nitrogen-oxide poisoning is the production of methemoglobin in the blood of exposed workers. Even among arc welders in open spaces, among whom nitrogen-oxide poisoning never or rarely occurs, many may be found presenting from ten to twenty percent blood saturation with methemoglobin. While this may be well within the tolerance of the body for hampered functioning of hemoglobin it no less indicates deviation from the normal. In the absence of ready and precise methods for the determination of nitrogen-oxide gases in the workroom atmosphere, its presence may be suspected if any considerable number of exposed workers exhibit more than 10 percent of methemoglobinemia.

Detection Not Easy

Unlike many of industry's dangerous work materials and by-products there is no ready method for the accurate determination of nitrogen gases. Sampling and analysis call for trained and experienced laboratory workers. Accurate methods for analysis do exist but their applications should never be detailed to the unqualified. Methods of protection of workers vary throughout the many industries that may harbor this exposure. In fixed operations, exhaust systems may be made to serve in admirable fashion. In others, such as shipbuilding, where welding is carried out in confined spaces a few times only, protection may have to be applied to the worker himself. In any event, for every operation there may be found a practical protective procedure. At all times the desideratum is to keep the concentration of these gases, mixed as they may be, at or below the level of 25 ppm, computed under standardized conditions.

The Situation Is Practical

Poisoning from nitrogen-oxide gases is no rarity. The literature of industrial toxicology contains many records of tragedies that might have been averted. The faithful application of this standard may be expected to save life, illness, expense, litigation, and altogether to promote the interests both of workers and employers.

South Africa Plans Government Testing Laboratory

In order to safeguard the public and to aid in checking quality and performance of materials and manufactured products, the South African Standards Institution has recommended that a National Standards Testing and Investigational Bureau be set up by the Government. Such a bureau would act as a national standardization laboratory and would carry out or arrange for investigations and tests in connection with standardization. The Institution recommended that this bureau be established by Act of Parliament as a corporate body.

The functions of the Bureau would include the testing and calibration of precision instruments, gages, and scientific apparatus; determining their degree of accuracy with regard to fundamental standards; and issuing certificates with regard thereto. Testing and investigations on behalf of the South African Standards Institution and others would be done either by delegating the work to approved institutions or by providing laboratory facilities. Such testing would include physical or chemical examination of materials and products, and tests of their use and performance.

The Bureau would also assist the South African Standards Institution in investigating any questions affecting the preparation of its standard specifications. It would provide facilities for testing goods, articles, and materials purchased on specification to decide whether such materials comply with the specification, and would act on behalf of the Government in testing locally manufactured and imported goods with a view to determining whether the goods comply with the regulations laid down by the Merchandise Marks Act or any other act, and to verify standards. It would also test manufactured products and carry out investigations and inspections to enable the South African Standards Institution and other standardizing bodies to control their marks. In addition to all this, it is suggested that the Bureau could also assist the Government departments in any tests which might need to be undertaken.

SAA to Simplify Agricultural Machinery

A special subcommittee composed of representatives of dairy farmers, milking machine distributors, and the Department of Agriculture, has been appointed by the Agricultural Machinery Sectional Committee of the Standards Association of Australia to establish standards for greater economy in the manufacture of agricultural machinery. Commonly used designs are to be modified to ensure their effective use on the farm by the increasing proportion of workers inexperienced in machine milking.

One of the economies proposed is the cutting-out of buffing and polishing and the substituting of a "war finish" on pipes and fittings, and equipment generally.

The sectional committee is also examining its unfinished work to see whether simplification (as proposed for plows and other discs) and standardization (as proposed for threads for grease nipples) can be introduced with advantage during the war.

Photography War Committee Shows Progress on Projector Standards

THE War Committee on Photography of the American Standards Association has reported progress on a number of special assignments being carried out for the Armed Forces. It has completed the technical work of drawing up specifications for a 16-mm sound-film projector designed to withstand the rigors of military transport and use in the war zones. This standard will provide for complete interchangeability of parts as between projectors, greatly simplifying problems of maintenance and repair in isolated camps, from the arctic to the tropics.

Used Formerly in Homes and Schools

Need for this work arises from the fact that projectors made heretofore have been for home or school use, and have not been built to stand up under military field conditions. These projectors are necessary for use in the adequate training of troops and also for morale purposes in camps in isolated parts of the world. The projector for which specifications have now been drawn up is intended to give a performance equal, both acoustically and optically, to that of the 35-mm projectors used in large movie theaters.

This work has all been carried through since December when a War Committee on Photography was set up by the ASA at the request of the War Production Board on the initiative of the Army Pictorial Service. It is made up of representatives of the Signal Corps; Air Forces; Bureau of Aeronautics, U. S. Navy; Corps of Engineers; Marine Corps; Medical Corps; the Society of Motion Picture Engineers; the Academy of Motion Picture Arts and Sciences; and manufacturers of photographic and cinematographic equipment.

When approved as an American War Standard, this standard for projectors will be used by the Armed Forces as a basis for development contracts to secure development models of projectors. After these models are made they will be tested and the specifications will be revised on the basis of these tests in such a way that in the future the Armed Forces will be able to procure projectors that are interchangeable in all respects between the various branches of the services.

At the subcommittee meetings in Rochester during the week of February 21, which were attended by more than 50 representatives of the Armed Forces and the photographic industry, three specifications for test films to check the optical properties of the projector were also approved.

Other subcommittees of the War Committee on Photography report progress on their special assignments. Subcommittee B is at work on test films to cover the sound systems of the proposed 16-mm projector. It met on March 7. Subcommittee C, which held its meeting on March 8, is working on specifications for 16-mm release prints. Subcommittee F met in Rochester March 1 to draw up specifications on still-picture contact printers and on slide-film projectors. Another subcommittee, G, is working on the first standard performance specifications including characteristics and methods of test for photographic exposure meters. These will be tied in closely with the American Standard Photographic Exposure Computer developed in 1942 for the U.S. Navy.

Subcommittee A will meet in the near future to work on a standard registration distance for 16-mm camera lenses. Other subcommittees will work on still camera equipment.

Request Standards for Camera Filters

In addition to the work already started, the Armed Forces have requested the American Standards Association to undertake standardization of camera filters to include a clear method of marking their performance characteristics.

Crystal Standard to Help Prevent Radio Interference

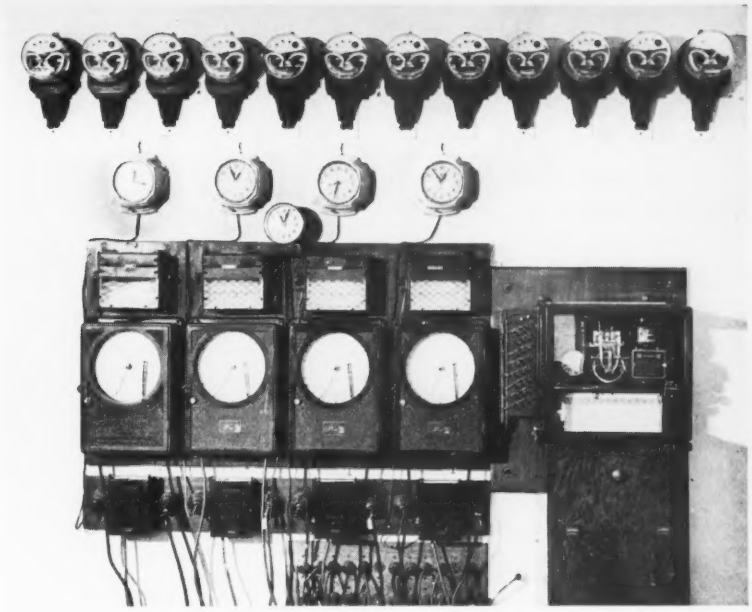
A new standard for quartz crystals used for control of frequency in aircraft radio equipment has just been approved by the American Standards Association, coordinating for the first time British, Canadian, and American practice in the manufacture of aircraft crystal units. Prepared through the joint efforts of industry and the Armed Forces at the request of the War Production Board in order to facilitate the production of these widely used crystal units, the standard has already been adopted by the Signal Corps Standards Agency, and the Bureau of Ships. It covers performance requirements and test methods to provide the high quality of crystal unit needed by the Armed Forces. It is expected that the standard will also serve as a guide in the design of new equipment.

The quartz crystals covered by the new standard are now in extensive use for maintaining frequency stability and minimizing frequency interference and are vitally important in aircraft radio to prevent interference between radio stations. They are extremely delicate and scarce and great care must be exercised in their manufacture, since they are required to hold the frequency within a fiftieth of one percent over a wide range of temperature and the quality of work involved in finishing them must therefore be of the highest precision.

The American War Standard for Crystal Unit CR-1()/AR (C75.11-1944) may be obtained for 25 cents from the American Standards Association. It may be obtained without charge, for procurement purposes only, from the government agency concerned.

These instruments record the performance of refrigerators tested according to American Standard procedures at Good Housekeeping Institute. Four refrigerators can be tested at one time.

The glass-enclosed instrument at the right is the temperature recorder; the meters (to the left) indicate the cycling and watts input; the self-starting clocks record the running time of the refrigerators; and the kilowatt-hour meters (above) record the amount of electricity used. (See box in col. 2, page 46.)



National Standards For Household Refrigerators

by Earl C. McCracken[1]

Chairman, ASA Committee on Standards and Specifications for Refrigerators (B38)

THE latest development in the problem of standardization of domestic refrigeration is the approval by the American Standards Association of an American Standard method for computing the food-storage volume and the shelf area of automatic household refrigerators, and of American Standard procedures for testing household electric refrigerators.

This approval represents the formal national acceptance of standards (with minor modifications) which have been used in the industry for a number of years, first as recommended practice and later (since 1937) as standards of the National Electrical Manufacturers Association. Development of these NEMA standards into American Standards was carried on under the sponsorship of the American Society of Refrigerating Engineers and the U. S. Department of Agriculture, Bureau of Human Nutrition and Home Economics.

The method of determining the food-storage capacity of refrigerators, computed in terms of net volume in cubic feet and of net shelf area in square feet, applies to all types of automatic refrigerators. For the purpose of computing food-storage volume, the standard defines depth, width, and height of the inside of the refrigerator as well as depth, width, and height of the cooling-unit space. Recessed and fractional shelves, suspended containers, and low-temperature shelves, as well as full-size shelves, are included in the computation of net shelf area. Storage volume figures to be reported include general storage volume (the gross volume minus the volume of the cooling-unit space), the frozen-storage volume (the sum of the volumes of the ice-freezing compartments and of the frozen-food-storage compartments), and the total storage volume (the sum of the general storage volume and the frozen-storage volume).

Obviously, this is a basic standard both for the manufacturer and the consumer. Statistics on refrigerator sales and use would be very difficult to interpret without an accepted standard method of computation. Comparison reports of refrigerators as given by different testing agencies will now need no detailed explanation as to the method used in determining the food-storage volume and shelf area reported.

The standard test procedures provide the method of conducting tests to determine the over-all performance of mechanically operated electric refrigerators. This test procedure has formed the basis for the determination of performance specifications in the industry and elsewhere for quantity refrigerator purchases such as for housing projects. The procedures adopted have also been widely used in testing laboratories for comparison of the performances of various refrigerators and have served as basic material in setting up experimental work in classroom laboratories. In addition to data on the average cabinet-air temperature, the am-

[1] Professor, Section of Physics and Household Engineering, Teachers College, Columbia University, New York, N. Y., representative of the American Home Economics Association on ASA committee B38.

The two new American Standards for Domestic Refrigerators were prepared by ASA committee B38 working under the sponsorship of the American Society of Refrigerating Engineers and the U. S. Department of Agriculture, Bureau of Human Nutrition and Home Economics.

The members of this committee are:

Earl C McCracken, American Home Economics Association, *Chairman*

W. M. Timmerman, National Electrical Manufacturers Association, *Vice-Chairman*

American Society of Refrigerating Engineers, Wm R. *Hainsworth; R. H. Money; J. H. Dennedy (alternate); W. W. Higham (alternate)*
U. S. Department of Agriculture, Bureau of Human Nutrition and Home Economics, *Lenore Sater*
American Association of University Women
American Council of Commercial Laboratories, *G. Thompson*
American Gas Association, *W. R. Hainsworth*
American Home Economics Association, *Mrs. M. de G. Bryan; Mrs. H. R. Howe; E. C McCracken; Mrs. Carol W. Moffett*
American Hospital Association, *R. E. Neff; L. M. Arrowsmith (alternate)*
American Hotel Association of the U. S. and Canada, *G. C. St Laurent*
American Institute of Architects, *T. I. Coe*
American Institute of Refrigeration, *Mary E. Pennington*
Consumers' Union of the United States, Inc, *Madeline Ross*
Electric Light and Power Group, *C. D. Buchholz; H. L. Thomson; H. E. Kent (alternate)*
General Federation of Women's Clubs, *Mrs. A. W. Smith*
Good Housekeeping Institute, *G. W. Alder; A. J. Donniez (alternate)*
Mail Order Association of America, *L. Dempsey*
National Association of Ice Industries, *L. A. Davis; J. F. Nickerson; L. M. Russell*
National Association of Ice Refrigeration Manufacturers, *C. F. Belshaw; H. B. Imes; G. Lindberg*
National Bureau of Standards, U. S. Department of Commerce, *M. S. Van Dusen*
National Electrical Manufacturers Association, *Allen O. Johnson; R. H. Money; L. A. Philipp; I. Reindel; W. M. Timmerman; E. R. Wolfert*
National Housing Agency, *A. C. Bredahl; J. D. Brooks (alternate)*
National Retail Dry Goods Association, *T. L. Blanke; A. I. Denburg; R. J. Doherty; M. Sweeney (alternate); C. E. Greenlee; S. Rosenberg*
National Retail Furniture Association, *R. R. Rau; W. J. Cheyney (alternate)*
Sectional Committee on Approval and Installation Requirements for Gas Burning Appliances, *W. R. Hainsworth*
U. S. Department of Agriculture, Rural Electrification Administration, *Clara O. Nale*
U. S. Treasury Department, Procurement Division, *N. F. Harriman; J. L. Jones (alternate)*
U. S. War Department, *F. R. Carter; J. R. Gramm; G. L. Anderson (alternate)*

The American Standard Method of Computing Food-Storage Volume and Shelf Area of Automatic Household Refrigerators (B38.1-1944) is available from the American Standards Association at 20 cents per copy and the American Standard Test Procedures for Household Electric Refrigerators (B38.2-1944) at 30 cents.

bient temperature, and the temperature-control position, the data to be reported include the amount of energy consumed in 24 hours, the percent of time the refrigerator is operating in order to maintain the test temperature, and the number of cycles per 24 hours. An ice-making test to determine the time required to freeze water when the refrigerator is operated at various ambient temperatures and with the temperature control adjusted to selected positions is included.

Active work on these standards for household refrigerators was taken up, following a period of inactivity, when the ASA committee on refrigerators was reorganized in 1940. Two subcommittees, one dealing with electrically driven, mechanically operated refrigerators, and one with refrigerators cooled with ice, held meetings in 1940 and 1941.

The work of the first of these subcommittees, under the active leadership of W. M. Timmerman, General Electric Company, as chairman, led to the formulation of the two standards just approved.

In addition to the material included in these new standards, other suggestions have been placed before the committee and are being given consideration for possible later use.

The work of the subcommittee on refrigerators cooled with ice under the chairmanship of C. F. Holske (formerly representative of the American Society of Refrigerating Engineers) has resulted in the preparation of a draft of a proposed standard. Work on this draft has been suspended, but it will be resumed later.

The refrigerator shown on our cover has been set up for testing by Good Housekeeping Institute according to performance tests given in the American Standard Test Procedures for Household Electric Refrigerators (B38.2-1944).

Through such tests Institute engineers develop basic editorial information about refrigerators and investigate performance claims of refrigerators offered for advertising.

The wooden baffle partly enclosing the refrigerator at sides and back is part of the equipment required, as are the thermometers hanging at both sides and in front of the refrigerator. The room in which this refrigerator is tested is electrically heated, or cooled by a room cooler, as desired. The temperature in either case is thermostatically controlled; the walls, ceiling, and floor are insulated.

The wires on the outside of the refrigerator are attached to thermometers placed inside the refrigerator, and to the temperature recorder shown on the instrument panel on page 45. One of the self-starting clocks shown on the instrument panel is connected to a series relay in the motor circuit so that the clock runs when the refrigerator unit operates, thus recording the number of minutes the refrigerator unit operates during the test.

The cover picture shows A. J. Donniez, in charge of refrigerator testing at Good Housekeeping Institute and member of ASA Sectional Committee B38, using a potentiometer to measure the temperature of the water as it freezes in the ice trays.

"Good Neighbors" on Illumination

International Commission on Illumination develops standards for exchange of information; offers cooperation with Central and South America

by C. A. Atherton[1]

AMONG other important activities, the International Commission on Illumination is concerned with some phases of international standardization and is thus of interest to the readers of INDUSTRIAL STANDARDIZATION. The broader activities of the Commission underlie those concerned with standardization, and it is necessary to have an idea of these broader activities in order to understand the scope and limitations of the standardization work.

The general field of interest of the Commission is, of course, everything that has to do with lighting and, more particularly, with lighting practice. Its interest in international standardization, therefore, is from the point of view of the procedures and methods used in making an interchange of views understandable.

In some ways, and to an increasing extent, the Commission is a sort of International Illuminating Engineering Society, the members of which are mostly national Illuminating Engineering Societies, although in some countries other national groups also take a limited part. On the United States National Committee of the Commission, for example, there are representatives of the American Institute of Electrical Engineers, the Edison Illuminating Companies, the Optical Society of America, the American Physical Society, and the National Bureau of Standards, as well as the Illuminating Engineering Society.

National Groups Must Be Representative

The organization of the national groups is different in different countries. It is not prescribed in the Constitution of the Commission, but it is required that the national group shall be truly representative of the lighting interests in the country in question.

The members in the Commission just prior to the outbreak of the war represented groups from the following countries: Argentina, Austria, Belgium, Czechoslovakia, France, Germany, Great Britain, Spain, Sweden, Switzerland, the United States, and the Union of Socialist Soviet Republics (of Russia).

The Commission is an evolution from an International Commission on Photometry which was the outcome of a Congress of the Gas Industry in Paris in 1900. This old Photometric Commission set up the International Candle in 1909. The scope and the name of the international society changed in 1913. All its activities since then might be divided as to which of two basic ideas predominates, one the setting up of standards, and the other the use of the commission as an international forum for the exchange of information, data, and ideas on all phases of light and lighting. The United States committee has been a strong advocate of this second idea, and the tendency has been toward spending more time on the exchange of ideas and relatively less on efforts to secure standardization.

Meet Every Three or Four Years

The meetings are held once every three or four years. The last meetings were held in 1921 in Paris (France), 1924 in Geneva (Switzerland), 1927 in Bellagio (Italy), 1928 in Saranac Lake (USA), 1931 Cambridge (England), 1935 Berlin and Karlsruhe (Germany), and 1939 in Scheveningen (Holland). Normally, another meeting should have been held in 1942 or 1943. The nature of the meetings is determined somewhat by the country which is host. For example, in the United States a very large part of the time and effort was given over to the interchange-of-ideas congress, and while the more formal meetings, in which agreements on standards and practices were discussed, were held as usual, they seemed less important in comparison.

The "agreement" subjects cover, of course, principally those items on which it is desirable to set up standards or standard practices. These are assigned to the various national committees. At the 1939 meeting the assignments were as follows:

Switzerland	Vocabulary Traffic Signals
France	Definitions and Symbols Light and Vision Aviation, Aircraft Lighting
Hungary	Visual Photometry Classification of Light Distribution
Poland	Physical Photometry
Germany	Colorimetry Daylight Lighting Education
Great Britain	Light Sources Projectors for Aviation and Marine Signals Lighting of Theatrical Scenes
United States	Lighting of Public Ways Lighting Practice
Italy	Automobile Lighting Variations of Tension
Spain	Lighting of Museums
Holland	Aviation, Ground Lighting
Belgium	Mine Lighting

The procedure consists of an investigation made by the "secretariat" country, a report and often a recommendation all prepared ahead of time, then a discussion,

[1] Member at large of the United States National Committee and of the Liaison Committee on Inter-American Lighting Affairs of the International Commission on Illumination.

One of the sessions during the 1939 meeting of the International Commission on Illumination at Scheveningen, Holland.

and an attempt to reach an agreement in the meeting.

The idea congress consists of papers submitted by individual persons through their respective country groups and generally a discussion and perhaps a resolution in the meeting.

Central Bureau in London

There is a central executive bureau in London from which all of the activities between the meetings are conducted. These are mostly concerned with getting out the records of past meetings and preparing agendas for new meetings.

The United States National Committee is well organized, has its own constitution and, in view of the fact that the International Commission is not active for the time being, has undertaken two new activities. These are, first, the publication of a "Condensed Unofficial Verson" of the *Proceedings of the ICI Tenth Session of 1939*, and the second is the setting up of a Liaison Committee on Inter-American Lighting Affairs.

"Unofficial Version" Issued

The "Unofficial Version" of the 1939 Proceedings was issued because no "official" version was or is expected. The official version was to have been published by the German Committee. The records and all materials were cut off from America, therefore, by the outbreak of war and it was felt by the United States Committee that there was too much of value in these records not to put them in some more permanent and useable form. Many of the papers and reports have been condensed and all those presented in other languages have been translated into English. Both "Agreement" reports and "Idea" papers are published, and the book of 340 pages is a good cross-section of the state of the lighting art at the time of the meeting.

The Liaison Committee is set up as a part of a general program which has been running through most industrial and educational group thinking in the United States. It is a part of that thinking which is generally called the "Good Neighbor Policy." Specifically, it was defined in a meeting of the U.S. National Committee as follows:

> "The purpose of the program shall be to further the ICI objectives throughout the countries of the Western Hemisphere in such a manner as to increase interest in the ICI and in better lighting generally."

One of the first undertakings of the Liaison Committee has to do with establishing Spanish and Portugese equivalents of the standard nomenclature which is now in French, German, and English. Naturally, the establishment of Spanish and Portugese terms and definitions will be a long and a slow job. It has only just been begun. For this, many contacts and much cooperation are needed from the sister republics to the south.

The Liaison Committee has also arranged to send a few copies of the "Unofficial Proceedings" to Central and South America and would like to send more if it knew specific persons who would translate and use this material. In general, the Liaison Committee would like to do more to help our friends organize to take a greater advantage from a connection with the rest of the illuminating engineering world.

Now Consider Latin-American Groups

Presumably the next step in any such development is the organization of small groups of illuminating engineers and others interested in lighting in the various countries of South and Central America and the establishment of contact between these groups and the similar larger groups in the countries of Europe and North America. The function of the Liaison Committee is specifically that of providing for such contacts between Central and South America and the United States. The Secretary of the Liaison Committee is J. DeCubas of the Westinghouse Electric International Company at 40 Wall Street, New York, N. Y. He would welcome any suggestions or correspondence concerning the establishment of such organizations.

What's New in Safety

HOW do you buy your safety equipment? Do you use the trial and error method? Do you depend upon the information given you by the salesman for the equipment manufacturer? Do you accept whatever your purchasing agent buys for you? Do you buy on specifications containing performance requirements designed to insure that the equipment will perform the functions for which it is intended?

These questions are raised because new standardization programs vitally affecting the equipment which you purchase are now being prepared. They represent a new phase of much needed standardization work in accident prevention. Practically no specifications have been prepared for safety equipment. The American Standard Safety Code for Head and Eye Protection does contain some specifications for goggles, respirators, and other items of personal protective equipment, but these and a few other isolated cases are the only specifications which have been prepared insofar as the work of the American Standards Association is concerned.

The Federal Specifications Committee, the Navy Department, and one or two industrial and commercial organizations have done some work in this field, but generally speaking this form of safety activity remains untouched.

Requirements Held Important

If you will examine the safety rules and regulations which have been adopted by governmental agencies such as the Industrial Accident Boards and Commissions and the Departments of Labor, as well as the series of American Standard Safety Codes, you will find innumerable requirements for the use of safety equipment, some of which is considered so important that only equipment which has been approved by the proper administrative authority can be used. In some cases, tests are made of the equipment submitted for approval and a decision made as to whether or not the equipment is effective through a review of the results of the tests by an officer who may have had experience in accident prevention work.

In other cases, the devices are examined by committees, the members of which discuss the merits or deficiencies of the equipment. In some cases, the personal opinion of a single government officer is the basis of the approval. In very few cases are the devices tested to see if they conform with performance requirements which have been set up to govern the approval of such equipment. The result has been that a considerable quantity of protective equipment is being sold to industry throughout the United States which is only partly or not at all performing the function for which it was intended.

Good Equipment Competes with Poor

There are a number of manufacturers and distributors of personal protective equipment who are furnishing industry with scientifically designed devices and materials that afford complete protection to the wearer or user. They are forced, however, to compete with many other manufacturers who, particularly during the war period, have entered the safety equipment field without sufficient experience as to the needs of industry and the best methods of designing devices which will give adequate protection against accident hazards. The smaller industrial plants of the country do not have the competent personnel which can judge the merits of the equipment offered to them by the sales representatives of such firms. Even if such plants purchase only from firms whose names appear on the approved list of regulatory bodies, they are not sure in many cases that the approvals which have been granted guarantee the safety efficiency of the devices.

Specifications including performance requirements and methods of test offer a solution to this difficulty. Through such specifications, industry will be able to purchase just as intelligently as it does any other equipment necessary for the carrying on of its operations. The well-established manufacturer will not be forced into competition with other manufacturers whose only object is to take advantage of a growing market and sell as many devices at a comfortable margin of profit as they possibly can.

Abstracted from an address by Cyril Ainsworth, Assistant Secretary, American Standards Association, before the Safety Engineering Club of Baltimore, February 4, 1944.

New Programs Under Way

I have mentioned that new standardization programs affecting such a situation are now under way. These programs, however, represent only a very minor beginning in the complete solution of the problem which I have just presented. I refer particularly to the program now going forward under the auspices of the American Standards Association at the request of the War Production Board involving the development of specifications for protective occupational clothing. This includes such items as leather welding garments, gloves, other leather, asbestos, and woolen protective clothing, clothing constructed of coated or impregnated materials, and some protective devices made of rubber or synthetic rubber products.

The specifications for safety shoes have been prepared and issued. The fact is that they have already proceeded through several editions. A further revision is now under way. Three of the leather welding garments have been developed and approved, and are now being printed. They cover aprons, leggings, and cape sleeves and bibs. This program, as limited as it is in its relation to the entire safety equipment and clothing field, is nevertheless an extensive one in its own right. If these specifications are to be soundly developed and to be of service in this critical war period, the help and

advice of every safety engineer in the country is essential. As these specifications are developed, tentative drafts will be circulated to all those persons and groups who show an interest and willingness, and who have the technical background, to be of assistance. Comments and criticisms, no matter how severe, will be welcome. Not only will the safety engineer be rendering an important war service as well as a future service to the accident-prevention movement, but in turn he will be receiving technical information which should prove to be of vital importance to his individual safety activities.

If you have not received copies of the standards which have already been issued, and desire to receive these or copies of draft standards to be issued in the future, notify the American Standards Association, 29 West 39 Street, New York 18, New York, and you will be placed on the mailing list for this purpose.

Just how far this program can go during the war period cannot be pictured at this time. Its continuance into the post-war period depends upon the interest of industry and the manufacturers. If they will inform the American Standards Association as to their needs, the situation will be carefully investigated and programs initiated provided they are sound and acceptable to all concerned.

Provisional Argentine Standards Available from ASA

Translations of nine Provisional Argentine Standards have just been prepared by the American Standards Association.

Provisional Argentine Standards are standards which have been tentatively approved by the Argentine National Commission for Uniforming Materials and have been issued for one year of trial use. At the end of the year, comments and criticisms received will be considered before the provisional standards are given final approval as Argentine Standards. They are recommended for the use of Argentine Government departments in making Government purchases. Such standards have been drawn up by technical committees of the Instituto Argentino de Racionalizacion de Materiales (IRAM), the standardization body of Argentina.

The translations just prepared are:

IRAM No.	*Title*	*No. of Pages*
105 N.P.	Method of Testing Rockwell Hardness of Metallic Materials	4
104 N.P.	Method of Testing Brinell Hardness of Metallic Materials	4
502 N.P.	Rolled Steel Bars of Circular Section for Reinforced Concrete	4
503 N.P.	Rolled Steel Bars and Shapes	4
1013 N.P.	Bleached Linseed Oil	2
1014 N.P.	Refined Linseed Oil	2
2009 N.P.	Electric Lamps of Tungsten Filament for General Use (based on IEC standards)	11
2020 N.P.	Coated Copper Conductors for Aerial Lines Outdoors (i.e., Weatherproof Conductors)	2
3001 N.P.	Formats of Paper, Cardboard and Pasteboard	3

Copies may be consulted at the ASA Library.

For the convenience of ASA Members, the American Standards Association will also provide photostat copies to any organization which wishes to pay the expense of photostating. This amounts to 40 cents per page. The number of pages in each standard is indicated above.

Emergency Specifications Indexed

A new Index to Federal Specifications, arranged alphabetically by titles and numerically by specification symbols, has just been issued by the Procurement Division of the U. S. Treasury Department. The Index includes a list of Emergency Alternate Federal Specifications and Conservation Amendments prepared in collaboration with the Conservation Division of the War Production Board to conserve critical and strategic material.

The new Index, which also includes a list of cancelled Emergency Alternates, replaces the Index of Emergency Alternate Federal Specifications heretofore issued by the Conservation Division of the War Production Board.

Copies of the Index to Federal Specifications may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. at 25 cents. The Federal Specifications may be purchased for the prices indicated in the Index.

Navy Department Uses American Safety Standards

Directives issued recently by the Navy Department to all Commandants and Commanding Officers of Naval Shore Establishments, Bureaus, and Offices, adopt several American Safety Standards for use by naval shore establishments. The American Standards thus adopted are the American Standard Safety Code for Cranes, Derricks and Hoists; the American Standard Safety Code for Industrial Sanitation in Manufacturing Establishments; and the American Recommended Practice of Industrial Lighting. These standards are being distributed by the Navy Department for the information and guidance of the interested Bureaus.

Use of Standard Capacitors To Conserve Mica

As a means of conserving the scarcer high grades of mica and providing more prompt deliveries of radio components, radio equipment manufacturers have been urged by members of the Fixed Capacitor Manufacturers Industry Advisory Committee to specify American War Standards characteristic A or B capacitors in circuit locations where they will serve efficiently the purposes for which the equipment is intended. A WPB representative told members of the committee that an estimated 50 percent of the capacitors in use on ground and aircraft radio equipment could use characteristic A or B mica capacitors effectively.

Models Demonstrate Women's Work Clothes At "Women for Victory" Show

Bungalow aprons, wrap-around and coat-style dresses, coveralls, slacks, and overalls made in accordance with American Standard specifications for women's work garments were modeled at a huge gathering under the auspices of the National Council of American-Soviet Friendship at Carnegie Hall, March 6. Two of the models, one wearing a coat-style dress, and the other a coverall, are shown here. Describing these garments, the master-of-ceremonies said:

"The dress this girl is wearing is made of durable fabrics. Dresses such as this, made to American Standard specifications, are either preshrunk, or cut large enough to allow for shrinkage. To asure fit they come in complete size ranges from misses' size 10 to women's size 50. The type and width and finish of seams, the stitching, the buttonholes, and the number and finish and quality of the buttons are all specified.

"The trouser garments made to American Standard specifications, such as the coverall above, come in three lengths to assure fit, and are cut correctly at the waist and over the hips. For safety, trousers are cuffless and close fitting at the ankle."

The War Committee of the American Standards Association which developed the standards included labor unions, the Department of Agriculture, big war plants, safety engineers of the Army and Navy, home economists, the National Bureau of Standards, leading manufacturers and designers of women's clothing. They developed the specifications with four "musts" in mind:

(1) These garments must be safe. (2) They must wear well. (3) They must be economical. (4) They must look well.

War Standard For Radio Capacitors

THE American Standards Association has recently completed a standard for fixed ceramic-dielectric capacitors of temperature-compensating types. These capacitors are important in military radio because they help to keep the tuning frequency constant throughout a large range of temperature variation.

This is another in the series of standards for military radio being developed by the American Standards Association at the request of the War Production Board. It covers classification of capacitors, material, workmanship, general and detailed requirements, methods of sampling, inspection and tests. The provisions of the standard are written in a form that can be used directly for procurement purposes, and it has already been adopted by the Radio Division, Bureau of Ships, Navy Department, and the Signal Corps of the United States Army.

Have Important Function

These capacitors fill an important function in the field of radio components. All other capacitors, and inductors as well, increase their value as the temperature is raised, and this results in a lowering of the frequency to which they may be tuned. The ceramic-dielectric capacitors may be designed to have either a positive, zero or a negative coefficient of capacitance with temperature. They are used mostly with the negative coefficient to compensate for the temperature changes in other capacitors and inductors.

May Be Used in Design

It is expected that this standard will be used by the Armed Forces in the design of new equipment and, when practicable, for replacement parts, as well as in the preparation of new manufacturing facilities. It is hoped that designers of equipment will use it as extensively as possible in order that maximum production may be had with a minimum waste of time and material.

The American War Standard, Fixed Ceramic-Dielectric Capacitors (Temperature-Compensating Types) (C75.12-1944) was prepared by representatives of the Armed Forces and industry, and technical experts in the radio field. It may be obtained for 35 cents a copy from the American Standards Association and free of charge, for procurement purposes only, from the government agency involved.

Standards Issued by Associations and Government

(See "ASA Standards Activities", page 54, for new American Standards and progress on ASA projects)

For the information of ASA Members, the American Standards Association gives here a list of standards received by the ASA Library during the past month. The list given below includes only those standards which the ASA believes are of greatest interest to Members in connection with their war production problems.

These standards may be consulted by ASA Members at the ASA Library, or copies may be obtained from the organization issuing the standard. The address of the organization is given for your convenience.

Associations and Technical Societies

American Society for Testing Materials (260 South Broad Street, Philadelphia 2, Pa.)

The letter T following a designation indicates the standard is Tentative. Where an additional number appears within parentheses, it indicates there is an Emergency Alternate Provision attached to the standard.

Carbonizable Substances in Paraffin Wax, Standard Method of Test for D 612-43

Natural Block Mica and Mica Films Suitable for Use in Fixed Mica-Dielectric Capacitors, Tentative Specifications for D 748-43T

Nonrigid Vinyl Butyral Plastics, Tentative Specifications for D 745-43T

Ready-Mixed Concrete C 94-43T

Sampling and Chemical Analysis of Special Detergents, Standard Method of D 501-43

Sampling Coals Classed According to Ash Content, Tentative Methods of D 492-43T

Terms Relating to Soaps and Other Detergents, Tentative Definitions of D 459-43T

Testing Sheet and Plate Materials Used in Electrical Insulation, Standard Methods of D 229-43

Volume Change of Cement Mortar and Concrete, Standard Method of Test for C 157-43

American Society for Testing Materials—(Continued)

Water-Immiscible Organic Solvents Volatile with Steam in Sulfonated and Sulfated Oils, Tentative Method of Test for D 500-43T

GR-S Synthetic Rubber Sheath Compound for Electrical Insulated Cords and Cables, Emergency Specifications for ES-6a

Society of Automotive Engineers (29 West 39th Street, New York 18, N. Y.)

Cap, thread protector—single and dual propeller shafts AS43

Generator envelope (auxiliary engine driven) mounting pad and drive, 8-inch bolt circle ARP71

Generator mounting pad and drive, 4 bolt AS46

Gun Synchronizer, mounting pad and drive AS48A

Mounting flange, pad and drive, accessory to gear box, 10-inch bolt circle ARP72

Pump, fuel, mounting pad and drive AS47A

Pump, vacuum or hydraulic, mounting pad and drive, type I AS49A

Pump, vacuum or hydraulic, mounting pad and drive, type II AS50A

Pump, vacuum or hydraulic, mounting pad and drive, type III AS51A

Tachometer, mounting pad and drive, type II AS55A

U. S. Government

(Wherever a price is indicated, the publication may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C. In other cases, copies may be obtained from the government agency concerned.)

National Bureau of Standards (Washington, D. C.)

Plastics: A short list of selected publications LC712

U. S. Department of the Interior (Washington, D.C.)

Tentative Bituminous and Lignite-Mine Inspection Standards Information Circular 7268 Revised September 1943

U. S. Department of Labor (Washington, D.C.)

Occupational Hazards and Diagnostic Signs (1942 Revision of Bureau of Labor Statistics Bulletin No. 582) Bulletin No. 41

Federal Specifications Executive Committee (U. S. Treasury Department, Washington, D. C.)

Federal Specifications

(Copies available from Superintendent of Documents, Government Printing Office, Washington, D. C.)

Belts and belting: flat, leather, vegetable-tanned (Amendment 1) KK-B-201a March 15, 1944

Bits, wood-boring: and chisels, mortising, hollow (Amendment 2) GGG-B-383 March 1, 1944

Brass, commercial-yellow, high-copper-yellow, and naval: castings (superseding QQ-B-621) QQ-B-621a March 15, 1944

Brushes: shaving (Amendment 1) (superseding E-H-B-571a 1/1/43) H-B-571a March 15, 1944

Capsules (empty); gelatin, pharmaceutical U-C-115 March 1 1944

Carbon-Tetrachloride: technical-grade O-C-141 March 15, 1944

Coppers (irons): soldering (superseding GGG-C-571) GGG-C 571a March 15, 1944

Crinoline; surgical CCC-C-665 February 15, 1944

Diathermy-apparatus; short-wave (Amendment 1) W-D-28 March 1, 1944

Flange-dimensions, standard: (classes 125 and 250 cast-iron flanges; classes 150, 250, and 300 bronze flanges) (for land use) (Amendment 1) WW-F-406a March 1, 1944

Fire-extinguishers; hand, portable, pump-tank-type O-F-36 March 15, 1944

Insulation; laminated-asbestos (superseding HH-I-561) HH-I 561a March 15, 1944

Machines, paper-fastening; and staples GG-M-81 March 15 1944

Overshoes: rubber (Amendment 1) ZZ-O-841 March 1, 1944

Packing; asbestos, rope and wick (Amendment 2) HH-P-4 March 15, 1944

Paint; ready-mixed, olive-drab (superseding TT-P-81, and E-TT-P-81, 6/25/42) TT-P-81a March 1, 1944

Pans; bread RR-P-58 March 1, 1944
Pencils; skin-marking GG-P-171 March 1, 1944
Sealer, floor; varnish-type (for wood and cork) (Amendment 1) TT-S-176a March 15, 1944
Shields; eye, single GG-S-328 March 1, 1944
Soap; saddle P-S-609 March 1, 1944
Sodium-dichromate; technical-grade O-S-595 March 15, 1944
Stencil-outfits (letters and figures); metallic (Amendment 1) RR-S-714 March 15, 1944
Thinner; lacquer (Amendment 2) TT-T-266 March 15, 1944
Tubing, copper, seamless (for use with soldered or flared-fittings) (superseding WW-T-799) WW-T-799a March 1, 1944
Varnish:
Damar (Amendment 1) (superseding E-TT-V-61, 4/25/42) TT-V-61 March 15, 1944
Shellac (Amendment 2) (superseding E-TT-V-91a, 4/25/42) TT-V-91a March 15, 1944

Federal Specifications
Cancellations

Carpet; cork E-LLL-C-96 (7/7/42)
Conduit; steel:
Flexible E-WW-C-566 (12/9/41)
Rigid, enameled E-WW-C-571 (5/14/42)
Rigid, zinc-coated E-WW-C-581a (5/14/42)
Fuses:
Cartridge, inclosed, renewable (fusible links not separately inclosed); and renewal links therefor E-W-F-803a (4/3/43)
Cartridge, inclosed, renewable (fusible links separately inclosed) E-W-F-805 (4/3/43)
Tile; cork E-LLL-T-431 (7/7/42)

Army Air Forces (Washington, D. C.)

Material and Process Specifications (Supersedes issue of January 10, 1944) February 10, 1944

Sketch Drafts of Argentine Standards Issued for Consideration

The following Sketch Drafts of proposed Argentine Standards, drawn up by subcommittees of the Instituto Argentino de Racionalizacion de Materiales (IRAM) are now out for public discussion before being adopted by IRAM.

IRAM No.	*Title*	*No. of Pages*
530-P	Alloy Concentration of Steels	2
532-P	Steel for Refining	2
1023-P	Test of Resistance to Weather (i.e. Paints)	2
1049-P	Copal Resins	5
1050-P	Paraffin	3
1053-P	Organic Remover	2
2517-P	Butt Welded Steel Pipes and Fittings	5
4030-P	Apparatus for Measuring Radio Electrical Disturbances	3
4037-P	Steel Pins for Porcelain Insulators	3
4515-P	Cartographic Drawing Symbols for Demarkation of Boundaries	3
4522-P	Representation of Gearing	1

For the convenience of its members, the American Standards Association has prepared its own translations into English and these are on file in the ASA Library. Photostat copies of the translations will be made available to Members at the cost of photostating. This amounts to 40 cents per page.

South Africa Starts Action To License Use of Standards Mark

The South African Standards Institution announces in its 1942-1943 annual report just received by the ASA that has formally requested the South African Government to protect the use of its standardization mark. The Government is acting on this request and it is expected that when all formalities are completed, the Government will prohibit the use of the following marks except by the South African Standards Institution itself, or by manufacturers or institutions licensed by the SASI. The marks so protected will be:

SASI (South African Standards Institution)
SASS (South African Standard Specification)
BSI (British Standards Institution)
BSS (British Standard Specification)
BES (British Empire Standard)

Action to protect these remarks and at the same time to set up machinery whereby licenses may be granted to manufacturers to use the mark on goods produced according to recognized specifications, has been under consideration for some time. Recently, an overseas firm suggested that it might manufacture taps and fittings in South Africa in accordance with Standard Specifications adopted by the Institution. Following the receipt of this application, the SASI asked the Government to set up the necessary machinery for control of the Institution's Marks so that it might be in a position to consider such applications.

British Metal Standards Available from ASA

The BS/STA series of standards on metals, published by the British Standards Institution for the Ministry of Supply, are now available to American industry through the American Standards Association. These standards are in the nature of government purchasing specifications and have been made effective for manufacture and use in Great Britain by the British Ministry of Supply. A limited number of copies are now in the ASA Library for sale as well as for reference purposes. Since many American suppliers are called upon to furnish material made according to these BS/STA standards, the complete list so far received by the ASA is given below:

BS/STA 1-1943. Special First Quality Hard-Drawn Spring Wire
BS/STA 2-1942. Steel for Hardened and Tempered Coil Springs (for guns and armored fighting vehicles, etc.)
BS/STA 3-1943. High Quality Hard Drawn Spring Wire
BS/STA 4-1943. Standard Quality Hard Drawn Spring Wire
BS/STA 5-1942. Services Schedule of Carbon and Alloy Steels for Armament and Vehicles
BS/STA 7-1942. Non-ferrous Metals and Alloys for Armament and General Engineering Purposes. Nickel and Its Alloys: Nickel—N. Series; Nickel-Copper-Zinc (Nickel Silver) Alloys—N.S. Series; Nickel-Copper Alloys—NC. Series
BS/STA 13-1943. Copper Rings and Strip for Driving Bands of All Projectiles and Shot (including Proof Shot)
BS/STA 17 and 18-1942—
STA 17. "Cap Copper Alloy" Strip for Detonator Shell and Percussion Caps
STA 18. Brass Strip for Q.F. and S.A. Cartridge Cases and for Caps
BS/STA 19-1943. Gilding Metal Strip
BS/STA 23-1943. Terneplate Quality

ASA Standards Activities

American Standards

Standards Available Since Our February Issue

Allowable Concentrations of Toxic Dusts and Gases Z37
Methanol Z37.14-1944 20¢
Oxides of Nitrogen Z37.13-1944 20¢
Electrical Insulating Materials C59
Molded Materials Used for Electrical Insulation, Methods of Testing (Revision of American Standard C59.1-1943) C59.1-1944 25¢
Sheet and Plate Materials Used in Electrical Insulation, Methods of Testing (Revision of American Standard C59.13-1943) C59.13-1944 25¢
Dropping Point of Lubricating Grease, Test for American Standard Z11.51-1943 25¢

Standards Approved Since Our February Issue

Approval Requirements for Gas Water Heaters (Revision of Z21.10-1941) Z21.10-1944
Listing Requirements for Gas Valves (Revision of Z21.15-1942) Z21.15-1944
Safety Code for Woodworking Machinery (Revision of O1-1930) O1.1-1944

Standards Being Considered by ASA for Approval

Electrical Insulating Materials C59
Tentative Methods of Test for Impact Resistance of Plastics and Electrical Insulating Materials (ASTM D256-43T) C59.11
Graphical Symbols for Electronic Devices Z32.10
(ASTM D117-43) C59.2
Graphical Symbols for Electriconic Devices Z32.10
Lightning Arresters (AIEE No. 28) C62.1
Socket Set Screws and Socket Head Cap Screws, Proposed Supplement to (Revision of American Standard B18.3-1936) B18.3a

Standards Submitted Since Our February Issue

Motion Pictures Z22
Cutting and Perforating Negative Raw Stock (35 mm) Z22.34
Cutting and Perforating Positive Raw Stock (35 mm) Z22.36
Raw Stock Cores (35 mm) Z22.37
Raw Stock Cores (16 mm) Z22.38
Screen Brightness Z22.39

American War Standards

War Standards Approved and Published Since Our February Issue

Allowable Concentration of Styrene Monomer Z37.15-1944 20¢
Military Radio Equipment and Parts C75
Dynamotors C75.13-1944 35¢
Power-Type Wire-Wound Rheostats C75.9-1944 50¢
Toggle Switches C75.15-1944 50¢
Variable Wire-Wound Resistors (Low Operating Temperature) C75.10-1944 40¢

List of American War Standards

Accuracy of Engine Lathes B5.16-1941 25¢
Allowable Concentrations of Toxic Dusts and Gases Z37
Cadmium Z37.5-1941 20¢
Manganese Z37.6-1942 20¢
Metallic Arsenic and Arsenic Trioxide Z37.9-1943 20¢
Xylene Z37.10-1943 20¢
Code for Electricity Meters (Revision of Paragraph 827) C12WS-1942 10¢
Color, Specification and Description of Z44-1942 25¢
Domestic Gas Ranges, Approval Requirements Z21.1ES-1942 $1.00
Dry Electrolytic Capacitors (Home Receiver Replacement Type) Second Edition C16.7-1943 20¢
Electrical Measuring Instruments C39
Electrical Indicating Instruments (2½- and 3½-Inch, Round, Flush-Mounting, Panel-Type) C39.2-1943 50¢
External Ammeter Shunts for Panel-Type Instruments C39.5-1943 25¢
Shock-Testing Mechanism for Electrical Indicating Instruments (2½- and 3½-Inch, Round, Flush-Mounting, Panel-Type) C39.3-1943
Dimensions for External Radio-Frequency Thermocouple Converters (120 Milliamperes to 10 Amperes, Inclusive) C39.4-1943
Gas Water Heaters, Approval Requirements Z21.10WS-1942 $1.00

List of American War Standards—(Continued)

Machine Tool Electrical Standards C74-1942 40¢
Military Radio Equipment and Parts C75
Ceramic Radio Insulating Materials, Class L C75.1-1943 20¢
Ceramic Radio Dielectric Materials, Class H C75.4-1943 20¢
Crystal Unit (CR-1()AR C75.11-1944 25¢
External Meter Resistors (Ferrule Terminal Styles) C75.5-1943 25¢
Fixed Ceramic-Dielectric Capacitors C75.12-1944 35¢
Fixed Composition Resistors C75.7-1943 60¢
Fixed Mica-Dielectric Capacitors C75.3-1943 50¢
Glass Radio Insulators C75.8-1943 50¢
Glass-Bonded Mica Radio Insulators C75.6-1943 25¢
Porcelain Radio Insulators C75.14-1944 50¢
Steatite Radio Insulators C75.2-1943 50¢
Photographic Exposure Computer Z38.2.2-1942 $1.00
Pressure Ratings for Cast-Iron Pipe Flanges and Flanged Fittings, Class 125 B16a1-1943 10¢
Pressure-Temperature Ratings for Steel Pipe Flanges, Flanged Fittings, and Valves (Revision of Tables 6 to 11, inclusive, American Standard B16e-1939) B16e5-1943 25¢
Protective Lighting for Industrial Properties A85-1942 50¢
Protective Occupational (Safety) Clothing L18
Leather Aprons L18.1-1944 (formerly Z51.1-1944)
Leather Cape Sleeves and Bibs L18.2-1944 (formerly Z51.2-1944)
Leather Leggings (Knee Length) L18.3-1944 (formerly Z51.3-1944)
} In one volume 30¢
Quality Control Z1
Guide for Quality Control Z1.1-1941
Control Chart Method of Analyzing Data Z1.2-1941
} In one volume 75¢
Control Chart Method of Controlling Quality During Production Z1.3-1942 75¢
Replacement Parts for Civilian Radio C16
Dry Electrolytic Capacitors (Home Receiver Replacement Type) C16.7-1943 20¢

List of American War Standards—(Continued)
Replacement Parts for Civilian Radio—(Continued)

- Fixed Paper-Dielectric Capacitors (Home Receiver Replacement Type) C16.6-1943 20¢
- Home Radio Replacement Parts Simplified List C16.8-1943 20¢
- Power and Audio Transformers and Reactors (Home Receiver Replacement Type) C16.9-1943 25¢

Straight Screw Threads for High-Temperature Bolting B1.4-1942 25¢

Women's Industrial Clothing L17

- Bungalow Aprons, and Wrap-around and Coat Style Dresses L17.1-1944 25¢
- Jackets, Shirts, and Aprons L17.3-1944 25¢
- Regular and Princess Model Coat Style Dresses L17.4-1944 20¢
- Slacks, Dungarees, Overalls, and Coveralls L17.2-1944 25¢

War Standards Under Way

Color Code for Lubrication of Machinery Z47
Cylindrical Fits B4
Electrical Graphical Symbols Z32.11/5
Machine Tool Electrical Standards Revision of C74-1942
Military Radio Equipment and Parts C75

- Capacitors
  - Fixed Paper-Dielectric Capacitors (Hermetically Sealed in Metallic Cases) C75.16

Packages for Electronic Tubes Z45
Photography and Cinematography Z52

- Specifications for Class J Service-Model 16-mm Sound Motion Picture Projector Z52.1
- Method of Determining Freedom from Travel Ghost in 16-mm Sound Motion Picture Projectors Z52.4
- Method of Determining Resolving Power of 16-mm Motion Picture Projector Z52.5
- Method of Determining Picture Unsteadiness of 16-mm Sound Motion Picture Projectors Z52.6
- Specifications for Multi-Frequency Test Film Used for Field Testing of 16-mm Sound Motion Picture Projection Equipment Z52.8
- Specifications for 3,000-Cycle Flutter Test Film for Testing 16-mm Sound Motion Picture Projection Equipment Z52.10

War Standarrds Under Way—(Continued)
Photography and Cinematography—(Continued)

- Sound Track Focusing Test Films for 16-mm Sound Motion Picture Projectors Z52.11
- Specifications for 400-Cycle Signal-Level Test Film for 16-mm Sound Motion Picture Projector Equipment Z52.17

Protective Occupational Footwear Z41

- Revisions of the following standards:
  - Men's Safety-Toe Shoes Z41.1-1943 (2nd edition)
  - Men's Conductive Shoes Z41.3-1943 (3rd edition)
  - Men's Explosives-Operations (Non-sparking) Shoes Z41.4-1943 (2nd edition)
  - Men's Electrical-Hazards Shoes Z41.5-1943 (3rd edition)
  - Men's Foundry (Molders) Shoes Z41.6-1943 (3rd edition)
  - Women's Safety-Toe (Oxford) Shoes Z41.2-1943 (3rd edition)
  - Women's Safety-Toe (High) Shoes Z41.7-1943 (2nd edition)
  - Women's Explosives-Operations (Non-sparking) Shoes Z41.8-1943 (2nd edition)
  - Women's Conductive Shoes Z41.9-1943 (2nd edition)

Protective Occupational (Safety) Clothing L18 (Formerly Z51)

- Leather Coats L18.4/45
- Leather Overalls L18.5/46
- Leather Sleeves L18.6/47
- Welders' Leather Gauntlet Gloves L18.7/38
- Protective Leather Gloves, Steel Stapled L18.8/39
- Asbestos Gloves L18.9/40
- Asbestos Gloves, Leather Reinforced L18.10/41
- Asbestos Mittens L18.11/42
- Asbestos Mittens, Leather Reinforced L18.12/43
- Women's Safety and Powder Caps L18.13/44

Replacement Parts for Civilian Radio C16

- Volume Controls (Home Receiver Replacement Type) C16.10

Resistance Welding Equipment C52

- Electrodes C52.3
- Specifications for Design and Construction of Resistance Welding Equipment C52.4

Safety in Electric and Gas Welding and Cutting Operations Z49
Screw Threads B1

- Acme Screw Threads for Special Purposes B1.5
- Screw Threads of Truncated Whitworth Form B1.6

News of ASA Projects

Basis for Coordination of Building Materials A62—

Two draft standards, Basis for the Coordination of Dimensions of Building Materials and Equipment, A62.1, and Basis for the Coordination of Masonry, A62.2, have been widely circulated to industry for comment and criticism.

Bedding and Upholstery L12—

Comments are already being received on the proposed standard definitions for terms used in the bedding and upholstery industry. The National Board of Bedding Manufacturers has distributed these definitions to bedding and upholstery manufacturers and to state offices.

Mining Standardization Correlating Committee—

Due to the developments of recent years, the chairman of the M24 committee feels that the American Standard Safety Rules for Installing and Using Electrical Equipment in Metal Mines (M24-1932) should be brought up to date. A subcommittee has been appointed. The Coal Division of the American Mining Congress circulated a report in September 1943 for a proposed standard on Color Coding of Distribution Power Cables for Polarity Identification. Copies will be sent to MSCC members in order that they may send the requested comments and criticisms to the AMC.

Photography and Cinematography Z38—

Five proposed specifications have been submitted to the sponsors for approval as American Standards with a recommendation for favorable action. These are: Contact Printers (Z38.7.10); Printing Frames (Z38.7.11); Masks (Separate) (Z38.7.12); Lantern Slide Projectors (Z38.7.14); and Projectors for Use in Small Auditoriums (Z38.7.4). Copies of Proposed American Standard Practice for Microfilms (Z38.7.8), Proposed American Standard Specifications for Microfilm Readers (Z38.7.9), and Method of Processing for Sensitometry of Photographic Paper (Z38.2.3) are being published for a one-year period of trial and criticism before being submitted to the American Standards Association for final approval.

Protective Occupational Footwear Z41—

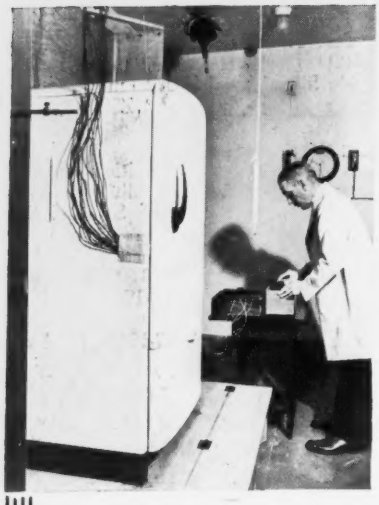
Each of the War Standards on men's and women's safety shoes is being revised in order to include one or more of the following points: identification to be permitted in the insole; revised appendix; amended impact test; heel pad required to be fabric; ferrous lasting tacks permitted to remain in the shoe; and 7-iron chrome-tanned bend or 8-iron tanned shoulder soles of specific grades.

Protective Occupational (Safety) Clothing L18—

Proposed War Standards for Leather Coats (L18.4/45), Leather Overalls (L18.5/46), and Leather Sleeves (L18.6/47) have been sent out to ballot of the ASA Standards Council. Seven proposed War Standards have been sent to canvass for comment and criticism. These standards are: Welders' Leather Gauntlet Gloves (L18.7/38); Protective Leather Gloves, Steel Stapled (L18.8/39); Asbestos Gloves (L18.9/40); Asbestos Gloves, Leather Reinforced (L18.10/41); Asbestos Mittens (L18.11/42); Asbestos Mittens, Leather Reinforced (L18.12/43); and Women's Safety and Powder Caps (L18.13/44).

Safety Code for Bakery Equipment Z50—

An organization meeting of the new ASA committee on Safety Code for Bakery Equipment (Z50) was held in Chicago March 5. It was decided that subcommittees be formed to prepare rules for different kinds of bakery machinery.



Two New Standards for Household Refrigerators

B38.1-1944 Provides a method of determining the food-storage capacity of refrigerators in terms of cubic feet and net shelf area.

B38.2-1944 Provides standard test procedures to determine the over-all performance of mechanically operated electric refrigerators, with reference to consumption of energy, temperature control, freezing time, etc.

basic standards for both the manufacturer and the consumer

already used by institutional purchasers

These two new American Standards represent the formal national acceptance of standards (with minor modifications) which have been used in the industry for a number of years, first as recommended practice and later as standards of the National Electrical Manufacturers Association. Development of these into American Standards was carried out by a representative committee under the administrative leadership of the American Society of Refrigerating Engineers and the U. S. Department of Agriculture, Bureau of Human Nutrition and Home Economics.

American Standard Method of Computing Food-Storage Volume and Shelf Area of Automatic Household Refrigerators (B38.1-1944).....20¢

American Standard Test Procedures for Household Electric Refrigerators (B38.2-1944).....30¢

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